

ple leaf the attention is to be directed to five parts of it, viz. the point or apex—the base where it joins the foot-stalk—the margin or edge of it—and its two surfaces. It is upon the different configurations of these parts that all the differences among simple leaves have been founded by Botanists: and although they have on these introduced a great variety of orders of leaves but few of them being absolutely necessary, for the beginner little more than a simple enumeration of them is required in this place. In the point of leaf five different shapes are met with. 1st. When it is sharp as in the Jessamine and many others. 2d. When blunt as in the common Bugle. 3d. When bounded by a curved line and appears as if a part of it was bitten off; an example of which is seen in the Pavonia. 4th. When notched; but at the same time blunted as in the petals of the Lychnis or red German Catch fly. Even when there are more than one notch, although some have from this circumstance considered it as sufficient to constitute a different order, it may without any impropriety be taken as only a variety of these with notched points. 5th. The last distinction of leaves founded on the form of their points are termed *cleft leaves*, when their is a fissure extending half their length.

The differences of leaves arising from the shape of their bases are only three in number, viz. *Heart shaped* as in the wood Stitchwort where the base is divided into two round lobes and turns narrower towards the point. *Kidney shaped* which is also divided into two lobes but the point is blunted. The *Arrow shaped* leaf where the lobes of the leaf are somewhat sharpened and elongated.

The margin of a leaf has by some writers been very unnecessarily distinguished from what they call the circumference of it, and some of those among which may be mentioned Willdenow and Smith have treated the circumference of the leaf as the part which distinguished its shape, whether round, square, triangular or otherwise; while the marginal distinctions indicated the nature of its edges, whether undulated, notched, or cut into teeth like a saw, &c. But this difference is not all required—and the better method is to consider both the margin and circumference as the same part of the leaf; and while in a description of any plant the shape of its leaves is mentioned the state or form of their edges may also be detailed.

In contemplating the surface of leaves Botanists have introduced a number of divisions according to their appearances. Some have even gone so far as to introduce distinctions formed upon the appearance exhibited by one or both surfaces. This however is unnecessary, unless in some few cases where there may be a very marked difference between the two.

The following distinctions are taken from the upper surfaces. 1st. *Spined* leaves as in the Nettle and Raspberry. 2d. *Channelled* leaves where there is a furrow running down the centre rib as is seen in the common Chara. 3d. The *Wrinkled* leaf which is met with in the Sage and Cabbages. 4th. *Veined* leaves in which the veins rise out of the rib and run towards the edges of the leaf. 5th. *Nerved* leaves which are found in the alpine Speedwell, and all those whose vessels spring from the leaf stalk and run towards the point of the